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| 10/728,895      | 12/08/2003  | Gregory Maury Shepherd | 017198-0119         | 9682             |

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EXAMINER

HOPKINS, ROBERT A

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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1724

DATE MAILED: 12/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/728,895

Applicant(s)

SHEPHERD, GREGORY MAURY

Examiner

Robert A. Hopkins

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 November 2005.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-34 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 6,9-11 and 14-30 is/are allowed.  
6) ☒ Claim(s) 1-5,7,8,12,13 and 31-34 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 31-34 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Regehr et al(4240814).

Regehr et al(4240814) teaches a light trap comprising at least two air channel modules comprising a plurality of sheets comprising at least a first sheet, a second sheet, and a third sheet, wherein each of the sheets comprises a series of troughs and peaks, wherein the sheets are arranged such that the troughs of the first sheet abut the troughs of the second sheet and the peaks of the second sheet abut the peaks of the third sheet, to create a plurality of air channels, wherein the sheets are formed such that a last sheet of a first air channel module is configured to be nested in a primary sheet of a second air channel module so that substantially no light may pass between the sheets or through the air channels.

Examiner notes that although the structure of Regehr et al(4240814) is not taught as being used as a “light trap”, the limitations of the claim are clearly met by the structure of Regehr et al(4240814), therefore the claim is anticipated.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5,7,8,12,13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Regehr et al(4240814) taken together with Regehr et al(4072478).

Regehr et al(4240814) teaches a drift eliminator comprising an air channel module comprising a plurality of air channels, wherein the air channel module is formed by a series of undulating sheets, wherein the drift eliminator is configured to remove at least 99.99% by volume of entrained water in air, and wherein a last sheet of the air channel module is configured to next in a primary sheet of a second air channel module so that substantially no gap is formed between the last sheet and the primary sheet. Regehr et al(4240814) is silent as to a plurality of air channel modules, and at least one planar sheet positioned between two of the air channel modules. Regehr et al(4072478) teaches a plurality of air channel modules, each module comprising a plurality of air channels, and at least one planar sheet(6) positioned between two of the air channel modules, wherein the air channel modules are formed by a series of undulating sheets. It would have been obvious to someone of ordinary skill in the art at the time of the invention to provide a planar sheet between two of the air channel

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modules of Regehr et al(4240814) to form a plurality of tortuous channels through which the gas flows(column 3 lines 52-56 of Regehr et al(4072478)).

Regehr et al(4240814) further teaches wherein the air passing through the air channels travels in a non-linear path. Regehr et al(4240814) further teaches wherein the non-linear path has at least one portion which defines an upward direction. Regehr et al(4240814) further teaches wherein the series of undulating sheets comprises a first plurality of sheets having an undulating shape creating a series of alternating peaks and troughs, a second plurality of sheets having an undulating shape creating a series of alternating peaks and troughs, wherein the sheets of the first and second pluralities of sheets of the first plurality of air channel modules are alternately stacked, and wherein the troughs of the sheets in the first and second pluralities of sheets of the first plurality of air channel modules abut each other, thereby creating the air channels between the peaks of the first and second pluralities of sheets of the plurality of air channel modules. Regehr et al(4240814) further teaches a second plurality of air channel modules comprising a first plurality of sheets having an undulating shape creating a series of alternating peaks and troughs, a second plurality of sheets having an undulating shape creating a series of alternating peaks and troughs, wherein the sheets of the first and second pluralities of sheets of the second plurality of air channel modules are alternately stacked, and wherein the troughs of the sheets in the first and second pluralities of sheets of the second plurality of air channel modules abut each other, thereby creating the air channels between the peaks of the first and second pluralities of sheets of the plurality of air channel modules.

***Allowable Subject Matter***

Claims 6,9,10,11,14-30 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Claims 6,9,14,23, and 29 include subject matter which was indicated as allowable in the previous office action.

Claims 10 and 11 depend on claim 6 and hence are also allowed. Claims 15-22 depend on claim 14 and hence are also allowed. Claims 24-30 depend on claim 23 and hence are also allowed.

***Response to Arguments***

Applicant's arguments filed 11-18-05 have been fully considered but they are not persuasive.

Applicant argues neither Regehr-I nor Regehr-II teaches or suggest removing at least 99.99% by volume of entrained water in air flowing through the air channels. Examiner respectfully submits that the structure of Regehr et al(4240814) is the structure required by claim 1, therefore although Regehr et al(4240814) does not explicitly teach a separation efficiency of 99.99%, the structure of the drift eliminator is expected to provide such a separation efficiency because the structure is the same as the structure required by claim 1.

Applicant further argues functional limitations are entitled to patentable weight and "must be evaluated and considered, just like any other limitation of the claim, for what it fairly conveys to a person of ordinary skill in the pertinent art. Applicant further

argues Examiner must give patentable weight to the structural feature of a last sheet of the first plurality of air channel modules configured to next in a primary sheet of a similar(second) plurality of air channel modules. Examiner respectfully submits that the air channel module as shown in figures 1-3 of Regehr et al(4240814) would provide for nesting with a similar(second) air channel module. Note from the view of figure 2, a second air channel module would be able to nest at the far ends of the honeycomb module structure shown in figure 2. Examiner notes in comparison of the structure of figure 2 of Regehr et al(4240814) and Figure 4 of the current drawings, the structure of figure 2 of Regehr et al(4240814) provides for the same honeycomb structure which would allow for nesting with another module. Examiner also notes Regehr et al(4072478) clearly teaches placing a planar sheet between adjacent modules, therefore the formation of a plurality of modules using the honeycomb structure of Regehr et al(4240814) is clearly suggest by Regehr et al(4072478). Examiner furthermore notes that a primary sheet of a second plurality of air channel modules is not positively claimed in claim 1. The structure of claim 1 is only required to be configured to nest in a hypothetical second module, and therefore examiner respectfully submits that the combination of Regehr et al(4240814) and Regehr et al(4072478) is clearly configured to provide for such a nesting with another module.

Examiner also notes with respect to claim 31, the structure of Regehr et al(4240814) is configured to be nested in a primary sheet of a second air channel module.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert A. Hopkins whose telephone number is 571-272-1159. The examiner can normally be reached on Monday-Friday, 7am-4pm, alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on 571-272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

December 12, 2005  
RAH

  
ROBERT A. HOPKINS  
PRIMARY EXAMINER  
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